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ABSTRACT

A study compared two groups of second grade children (one receiving code-emphasis reading instruction and the other receiving eclectic reading instruction) on their ability to generate target words deleted from sentence frames, given minimal graphemic information. Target words were either a high-frequency word or low-frequency synonym while sentence frames provided three levels of contextual information. Results suggested a small advantage for code-emphasis subjects. This was primarily noticeable in responses to low-frequency target words, particularly when contextual constraints were weak. The findings indicate that both contextual constraints and word frequency were significant factors in ease of word identification. (TJ)

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Effect of Instruction Type on Word Prediction Behaviors of Children

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Abstract

Recent research has demonstrated that type of instruction (e.g. code-emphasis vs. whole word) strongly influences word identification errors of young readers. This study compared two groups of second graders (one receiving code emphasis reading instruction and the other receiving eclectic reading instruction) on their ability to generate target words deleted from sentence frames given minimal graphemic information. Target words were either a high frequency word or low frequency synonym while sentence frames provided 3 levels of contextual information. Results demonstrated a small advantage for code-emphasis subjects. This was primarily attributable to responses to low frequency targets, particularly when contextual constraints were weak. Congruent with earlier research were the findings that both contextual constraints and word frequency were significant factors in ease of identification.

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Effect of Instruction Type
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Recently the effect of instructional approaches upon various reading abilities has been shown to be quite powerful and consistent (Barr, 1975; Cohen, 1975; DeLawter, 1976). Of particular note is the differential effect strong code-emphasis instructional programs exert on the reading errors of early readers.

Barr (1975) found that most children adopted the classroom instructional method (phonic or whole-word) even if they previously demonstrated a different consistent strategy. Cohen (1975) suggested poor readers in a code-emphasis approach seemed to reveal a lack of awareness of oral-to-written word responses. DeLawter (1975) presented evidence that code-emphasis instruction produced more nonsense word errors than those receiving other instructional strategies.

While it is generally agreed that skilled readers make heavy use of semantic and syntactic information when reading connected text, it is a point of debate as to how this ability develops and whether instructional strategies exert any substantial influence upon this sequence. Good readers are seen by some (Goodman, 1972; Smith, 1978) to make more effective use of contextual information while poor readers underutilize these information sources and attend more to grapho-phonic information. This is somewhat analogous to a "levels of processing" model (Craik and Lockhart, 1973) in that the poor reader enters the task at the phonemic level while the good reader enters at the semantic level (Allington, Mosenthal, Walmsley, 1978).

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The question, then, that was the basis of this study is: do readers instructed with a code-emphasis approach and readers taught in an eclectic program make equally effective use of contextual information in predicting deleted words?

Method

Subjects. Students were drawn from the second grade classes of two school populations. The instructional staff in one school employed a synthetic phonics basal reader series as the primary instructional material and the other staff employed an eclectic program with 3 basal reading series available (none of which were synthetic phonic approaches) with frequent use of language experience activities in reading lessons. Additionally no classroom teacher in this school used supplementary phonic materials on any consistent basis.

All subjects were administered either the reading comprehension subtest of the Peabody Individual Achievement Test or the Metropolitan Reading Test to screen for reading ability. Only subjects scoring at or above a 2.4 grade equivalent were selected for participation. Subjects in the code-emphasis school had a mean reading grade equivalent of 4.03 and in the eclectic school a mean of 4.12.

Materials. The stimuli were from Pearson and Studt (1975) and are described in detail there. Briefly though, the stimuli consisted of 12 sentence sets each containing sentences at 3 levels of contextual richness: rich, moderate, and low. Each sentence contained a single deletion. Two target words which fit the deletion were selected--a high frequency word and a low frequency synonym.

Design. All subjects received 12 test sentences, with 4 sentences from each level of contextual richness. High and low-frequency target words were alternated across trials with each subject then required to respond to 6

deletions with the high frequency word and to 6 deletions with the low-frequency item.

Procedure. The task was administered individually and took approximately 25 minutes to complete. Each subject was provided an easy example in an attempt to ensure the task was understood.

Briefly, the experimenter placed a sentence strip in front of the subject and asked that they read it (either silently or orally as they preferred) and try to predict the word went in the blank. Subjects were told that any word in the stimulus sentence which they did not know would be pronounced for them if they would ask. After the subject had read the sentence and attempted to supply the word a supportive comment was offered. When the response was not the target word the experimenter displayed the initial grapheme of the target word and asked the subject to read the sentence once again trying to respond with a word that "fit" the sentence and began with that letter. The exposure of single graphemes sequentially from left to right continued until either a correct response was elicited or the whole word was exposed (again this procedure is described in detail in Pearson and Studt, 1975).

Results

The data were analyzed using a repeated measures analysis of variance following an arc sine transformation of the proportion of word exposed, prior to correct identification, as the unit of analysis (these proportions could range from 0.00 to 1.00). Cell means are displayed in Table 1 as percent of word needed for correct identification.

Insert Table 1 here

By comparing the cell means one can see that the subjects receiving code-emphasis instruction required less graphemic information to produce the target word in all conditions. However, this difference is not statistically significant ($f = 3.87$, $df = 1,28$, $p = .059$). Congruent with the results of Pearson and Studt (1975) there were statistically significant effects for contextual richness ($F = 15.5$, $df = 2,56$, $p. < .001$) and word frequency ($F = 60.4$, $df\ 1,28$, $p. < .001$). Additional analyses of the data indicated that subjects from the eclectic program were unable to pronounce a larger number of words after all graphemes had been exposed ($n = 23$) than the code-emphasis subjects ($n = 17$). They also required 100% of the graphemes exposed in more words than the code-emphasis readers ($n = 69$ vs $n = 48$). Low frequency words accounted for the vast majority of incorrect responses. As can be seen contextual richness interacted with word frequency in both groups ($F = 4.6$, $df = 2,56$, $p. < .05$) with word identification requiring more graphic information as level of contextual richness declined. No other interactions were statistically significant.

Discussion

The differences between the code-emphasis and eclectic subjects were not statistically significant though the former did have a small but consistent advantage across all stimuli types. Since both groups of subjects had mean reading achievement levels quite a bit above grade placement the results suggest that good readers seem to develop similar strategies regardless of instructional type. The consistency of the differences, however, does seem to suggest that the code-emphasis subjects had additional strategies available for dealing with low-frequency words. That the subjects in both groups typically responded to the deletion with a high-frequency word--whether the target was a high frequency word or a low frequency word--affected

the magnitude of differences (see Table 1) between subjects with the High-Rich and High-Low conditions evidencing the smallest differences in amount of graphic information necessary to identify the target word.

Finally, these data support the powerful influence of contextual information upon word identification. The subjects employed this information source consistently regardless of the type of instructional program they had been placed in.

Table 1

	High Frequency			Low Frequency		
Instruction	Rich	Moderate	Low	Rich	Moderate	Low
Eclectic	27.4%	57.7%	61.1%	74.6%	72.6%	84.2%
Code-Emphasis	23.4%	42.2%	58.4%	58.0%	65.6%	78.8%
(difference)	(4%)	(15%)	(3%)	(16%)	(7%)	(6%)

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